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2nd issue editorial

We are pleased to present the second issue of ***Sustainable Materials and Technologies***, a new journal focused on materials and technologies for sustainable development. This is an increasingly active area and we are continually surprised by the wide range of technical activities that are occurring under this umbrella. This issue's articles reflect that breadth.

We open the issue with two invited articles. The first makes the case for the accelerated commercial demonstration of fast nuclear reactors based on closed fuel cycles. We expect that materials scientists and developers in our readership will find this introduction educational, while also stimulating thinking about the system-level trade-offs and where new materials might play a role.

Our second invited article considers materials options for traction motors used in electric vehicles. Rare earth permanent magnets are widely used in this technology. However, concerns about supply have stimulated research into alternatives. This article examines options, both material substitutes and alternate motor designs, for motors without rare earth magnets. Again, our expectation is this article will stimulate thinking and dialogue in this important area.

We also continue to see a significant amount of work in the use of natural materials as feedstocks. Our issue also includes two examples from this area. One article evaluates the use grape seed waste as an absorbent precursor for precious metals recovery. The other looks at water hyacinth feedstocks for bio-ethanol production. The relative merits of different experimental optimization approaches are incorporated into the study.

As we stated in our introductory issue, efforts to develop new materials are necessarily grounded in performance targets. Absent industry-specific roadmaps or other guidance from the end user community, these targets can default to incremental improvements over known materials. Conversely, there can be a temptation for systems designers to develop concepts based on existing material sets because of the relatively long cycle times associated with inventing, proving, and scaling up production of new materials.

This journal will continue to encourage this dialogue. We continue to seek articles covering original research in areas relevant to sustainable development. We will supplement these with technical reviews that provide new insights and interpretations of existing work. We are excited to be sharing this journey with you.

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